REMARKS

The Official Action of 30 June 2004 has been carefully considered and reconsideration of the application as amended is respectfully requested.

The objection at paragraph 1 of the Official Action is respectfully believed to be in error insofar as Applicants filed a Preliminary Amendment on 9 October 2004 which deleted the multiple dependencies from the claims. A copy of the Preliminary Amendment is submitted herewith.

Claim 30 has been amended to depend from claim 20 and claim 13 has been amended to depend from claim 12. In addition, Applicants have added new claims 31 and 32 which track the recitations of claim 20, but which depend from claims 13 and 14 respectively. By this amendment, Applicants have restored the subject matter which was eliminated by the deletion of the multiple dependencies originally recited in claim 20.

In response to the requirement in the Official Action of June 30, 2004 for an election of claims, Applicants hereby elect to prosecute in the present application the claims of Group IV, i.e. claims 20-21. This election is made with traverse for the reasons set forth below. This election is also made without prejudice to Applicants' right to file a divisional application or applications directed to the non-elected claims.

Applicants respectfully traverse the requirement for restriction as between the elected claims of Group IV on the one hand, and claims 12-14 of Group II and claim 30 of Group V on the other. Rule 13 of the PCT rules governing unity of invention specifically provides for combinations of claims in different categories that include a claim for a given product (e.g., the recombinant double-stranded DNA molecule of claim 12) and a claim for the use of the product (e.g., the use of the double-stranded DNA molecule to produce a recombinant gene product of claim 20). See Annex B of the Administrative Instructions under the PCT at subparagraph (e)(i). Rule 13 also provides for unity as between a DNA sequence (e.g. the double-stranded DNA molecule of claim 12) and a gene product encoded by the DNA sequence (e.g. the recombinant gene product of claim 30). See, for example, Example 17 of Annex B, Part 2. Accordingly, and since PCT unity of invention rules apply to this 371 application, it is respectfully submitted that at least claims 12-14 and 30 should be examined in this application along with the elected claims.

Applicants respectfully submit that they have satisfied all of the requirements in the aforementioned Official Action and now respectfully request an examination on the merits of at least the elected claims.

Respectfully submitted,

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Jantina Creemers, et al
Serial No.: 09/743,885
Filed: January 16, 2001
For: PROCESS TO COLLECT METABOLITES FROM MODIFIED NECTAR BY INSECTS

Group No.:

Examiner:

Attorney Docket No.: U013212-4
Assistant Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Please amend the above application as follows:

IN THE CLAIMS

3. (Amended) An isolated DNA sequence according to claim 1, obtained from a plant of *Petunia hybrida,* the sequence consisting essentially of the sequence given in SEQ ID N0:7, or a functional fragment thereof having promoter activity.

5. (Amended) An isolated DNA sequence according to claim 4 having:

a) a nucleotide sequence given in SEQ ID N0:4, or

b) a nucleotide sequence that hybridises with the nucleotide sequence of

CERTIFICATE OF MAILING (37 CFR 1.8a)
I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the: Assistant Commissioner of Patents and Trademarks, Washington, D.C. 20231

CLIFFORD J. MASS
(Type or print name of person mailing paper)

Date: October 9, 2001

(Signature of person mailing paper)

(a) or with a fragment of (a) under the following hybridisation conditions: pre-hybridisation for lh at about 65 °C in a solution of Church and Gilbert, comprising 0.5 M sodium phosphate, pH 7.2, 1 mM EDTA, 1% BSA, 7% SDS, followed by hybridisation in the same solution for 18h at about 65 °C, followed by washing three times in 0.1 x SSC, 0.1% SDS at about 65 °C for 30 min., or

c) a nucleotide sequence that has at least 85% homology to the nucleotide sequence of a).

9. (Amended) An isolated DNA sequence according to claim 8, having:

a) a nucleotide sequence given in SEQ ID N0:6 obtained from a plant of Calluna vulgaris, or

b) a nucleotide sequence that hybridises with the nucleotide sequence given in a), under the following hybridisation conditions: pre-hybridisation for lh at about 65 °C in a solution of Church and Gilbert, comprising 0.5 M sodium phosphate, pH 7.2, 1 mM EDTA, 1% BSA, 7% SDS, followed by hybridisation in the same solution for 18h at about 65 °C, followed by washing three times in 0.1 x SSC, 0.1% SDS at about 65 °C for 30 min., or

c) a nucleotide sequence that has at least 95% homology to the nucleotide sequence of a).

10. (Amended) A recombinant double-stranded DNA molecule comprising an expression cassette comprising the following constituents:

i) a promoter functional in plants,

ii) DNA sequence coding for a protein as defined in claim 4 which is fused to the promoter sequence in sense or antisense orientation, and optionally

iii) a signal sequence functional in plants for the transcription determination and polyadenylation of an RNA molecule.

13. (Amended) A recombinant double-stranded DNA molecule according to claim 11 [12] wherein the promoter is an isolated DNA sequence from the promoter region upstream of a nectary-specific expressed sequence, which nectary-specific expressed sequence encodes a protein comprising the amino acid sequence given in SEQ ID NO:1, or a protein that has at least 60% homology to the amino acid sequence given in SEQ ID NO:1.

14. (Amended) A recombinant double-stranded DNA molecule according to claim 12 wherein the DNA sequence encoding a signal peptide is an isolated DNA sequence comprising the coding region for a signal peptide, wherein the information contained in the DNA sequence permits, upon translational fusion with a DNA sequence encoding a protein that is expressed in nectaries, targeting of the protein to nectar.

15. (Amended) A process for producing a transgenic plant exhibiting excretion of a recombinant protein in its nectar, comprising:

i) introducing in a plant cell a recombinant double-stranded DNA-molecule as defined in claim 12, wherein the recombinant protein is excreted in nectar,

ii regenerating plants from the transgenic cell, and

iii) selecting transgenic plants.

16. (Amended) A process for producing a transgenic plant exhibiting a modified nectar composition, comprising:

i) introducing in a plant cell a recombinant double-stranded DNA-molecule as defined in claim 11, wherein the recombinant protein interferes with metabolic pathways in the nectaries,

ii) regenerating plants from the transgenic cell, and

iii) selecting transgenic plants.

17. (Amended) A process for producing a transgenic plant exhibiting a modified nectar secretion, comprising:

i) introducing in a plant cell a recombinant double-stranded DNA-molecule as defined in claim 11, wherein the recombinant protein interferes with sink strength of nectaries,

ii) regenerating plants from the transgenic cell, and

iii) selecting transgenic plants.

18. (Amended) A process for producing a transgenic plant exhibiting a modified nectary development, comprising:

i) introducing in a plant cell a recombinant double-stranded DNA-molecule as defined in claim 11, wherein the recombinant protein interferes with the development of nectaries,

ii) regenerating plants from the transgenic cell, and

iii) selecting transgenic plants.

19. (Amended) A process for producing honey from modified nectar of transgenic plants, comprising:

i) producing a transgenic plant by introducing in a plant cell a recombinant double-stranded DNA molecule as defined in claim 11, regenerating plants from the transgenic cell, and selecting modified plants exhibiting the excretion of nectar with a modified composition,

ii) allowing insects to collect nectar from the transgenic plants and to process the nectar into honey.

20. (Amended) A process for producing a recombinant gene product from honey, comprising:

ii) producing a transgenic plant by introducing in a plant cell a recombinant- double-stranded DNA molecule as defined in claim

12. regenerating plants from the transgenic cell, and selecting modified plants exhibiting excretion of the recombinant gene product in nectar,

ii) allowing insects to collect nectar from the transgenic plants and to process the nectar into honey, and

iii) isolating and purifying the gene product from the honey.

2.2. (Amended) Micro organisms containing DNA sequences according to claim 1.

23. (Amended) Micro organisms containing recombinant DNA molecules according to claim 10.

24. (Amended) A plant cell or plant cell culture transformed with one or more DNA sequences according to claim 1.

25. (Amended) A plant cell or plant cell culture transformed with recombinant DNA molecules according to claim 10.

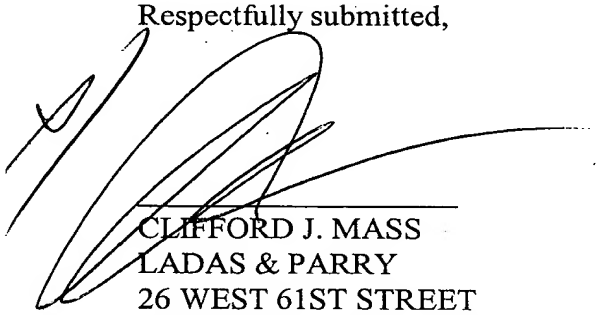
26. (Amended) A plant consisting essentially of the plant cells of claim 24.

27. (Amended) A transgenic plant obtained by the process of claim 15.

REMARKS

The above amendatory action is taken to avoid claim fees that would otherwise accrue due to the presence of multiply dependent and to eliminate doubly dependent claims.

Respectfully submitted,



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MARK-UP

3. (Amended) An isolated DNA sequence according to claim 1 [or 2], obtained from a plant of *Petunia hybrida,* the sequence consisting essentially of the sequence given in SEQ ID N0:7, or a functional fragment thereof having promoter activity.

5. (Amended) An isolated DNA sequence according to claim 4 having:

a) a nucleotide sequence given in SEQ ID N0:4, or

b) a nucleotide sequence that hybridises with the nucleotide sequence of (a) or with a fragment of (a) under the following hybridisation conditions: pre-hybridisation for lh at about 65 °C in a solution of Church and Gilbert, comprising 0.5 M sodium phosphate, pH 7.2, 1 mM EDTA, 1% BSA, 7% SDS, followed by hybridisation in the same solution for 18h at about 65 °C, followed by washing three times in 0.1 x SSC, 0.1% SDS at about 65 °C for 30 min. [as defined in claim 2], or

c) a nucleotide sequence that has at least 85% homology to the nucleotide sequence of a).

9. (Amended) An isolated DNA sequence according to claim 8, having:

a) a nucleotide sequence given in SEQ ID N0:6 obtained from a plant of Calluna vulgaris, or

b) a nucleotide sequence that hybridises with the nucleotide sequence given in a), under the following hybridisation conditions: pre-hybridisation for lh at about 65 °C in a solution of Church and Gilbert, comprising 0.5 M sodium phosphate, pH 7.2, 1 mM EDTA, 1% BSA, 7% SDS, followed by hybridisation in the same solution for 18h at about 65 °C, followed by washing three times in 0.1 x SSC, 0.1% SDS at about 65 °C for 30 min. [as defined in claim 2], or

c) a nucleotide sequence that has at least 95% homology to the nucleotide sequence of a).

10. (Amended) A recombinant double-stranded DNA molecule comprising an expression cassette comprising the following constituents:

i) a promoter functional in plants,

ii) DNA sequence coding for a protein as defined in claim 4 [any of claims 4 to 7] which is fused to the promoter sequence in sense or antisense orientation, and optionally

iii) a signal sequence functional in plants for the transcription determination and polyadenylation of an RNA molecule.

13. (Amended) A recombinant double-stranded DNA molecule according to claim 11 [or 12] wherein the promoter is an isolated DNA sequence from the promoter region upstream of a nectary-specific expressed sequence, which nectary-specific expressed sequence encodes a protein comprising the amino acid sequence given in SEQ ID NO:1, or a protein that has at least 60% homology to the amino acid sequence given in SEQ ID NO:1. [as defined in any of claims 1-3].

14 (Amended) A recombinant double-stranded DNA molecule according to claim 12 [or 13] wherein the DNA sequence encoding a signal peptide is an isolated DNA sequence comprising the coding region for a signal peptide, wherein the information contained in the DNA sequence permits, upon translational fusion with a DNA sequence encoding a protein that is expressed in nectaries, targeting of the protein to nectar. [as defined in claim 8 or 9].

15. (Amended) A process for producing a transgenic plant exhibiting excretion of a recombinant protein in its nectar, comprising:

i) introducing in a plant cell a recombinant double-stranded DNA-molecule as defined in claim 12 [any of claims 12 to 14], wherein the recombinant protein is excreted in nectar,

ii regenerating plants from the transgenic cell, and

iii) selecting transgenic plants.

16. (Amended) A process for producing a transgenic plant exhibiting a modified nectar composition, comprising:

i) introducing in a plant cell a recombinant double-stranded DNA-molecule as defined in claim [any of claims] 11 [to 14], wherein the recombinant protein interferes with metabolic pathways in the nectaries,
ii) regenerating plants from the transgenic cell, and
iii) selecting transgenic plants.

17. (Amended) A process for producing a transgenic plant exhibiting a modified nectar secretion, comprising:

i) introducing in a plant cell a recombinant double-stranded DNA-molecule as defined in claim [any of claims] 11 [to 14], wherein the recombinant protein interferes with sink strength of nectaries,
ii) regenerating plants from the transgenic cell, and
iii) selecting transgenic plants.

18. (Amended) A process for producing a transgenic plant exhibiting a modified nectary development, comprising:

ii) introducing in a plant cell a recombinant double-stranded DNA-molecule as defined in claim [claims] 11 [or 14], wherein the recombinant protein interferes with the development of nectaries,
ii) regenerating plants from the transgenic cell, and
iii) selecting transgenic plants.

19. (Amended) A process for producing honey from modified nectar of transgenic plants, comprising:

i) producing a transgenic plant by introducing in a plant cell a recombinant double-stranded DNA molecule as defined in claim [any of claims] 11 [to 14], regenerating plants from the transgenic cell, and selecting modified plants exhibiting the excretion of nectar with a modified composition,

ii) allowing insects[, preferably bees,] to collect nectar from the transgenic plants and to process the nectar into honey.

20. (Amended) A process for producing a recombinant gene product from honey, comprising:

i) producing a transgenic plant by introducing in a plant cell a recombinant- double-stranded DNA molecule as defined in claim [any of claims] 12 [to 14], regenerating plants from the transgenic cell, and selecting modified plants exhibiting excretion of the recombinant gene product in nectar,

ii) allowing insects[, preferably bees,] to collect nectar from the transgenic plants and to process the nectar into honey, and

iii) isolating and purifying the gene product from the honey.

22. (Amended) Micro organisms containing DNA sequences according to claim [one or more of claims] 1 [to 9].

23. (Amended) Micro organisms containing recombinant DNA molecules according to claim [any of claims] 10 [to 14].

24. (Amended) A plant cell or plant cell culture transformed with one or more DNA sequences according to claim [claims] 1 [to 9].

25. (Amended) A plant cell or plant cell culture transformed with recombinant DNA molecules according to claim [any of] 10 [to 14].

26. (Amended) A plant consisting essentially of the plant cells of claim [claims] 24 [or 25].

27. (Amended) A transgenic plant obtained by the process of claim [any of claims] 15 [to 18].